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## NEWS AND NOTES

### Observations on the Birth of a Kinkajou, *Potos flavus* (Schreber 1774)

On February 25, 1972, a kinkajou kept at the Louisville zoo gave birth to her sixth single young. The mother was born April 21, 1963; the male, father of all six young and the mother, was born in March 1955. The female's first young was born on July 10, 1966. The sixth young, a male, was born after a gestation of 119 to 120 days. The gestation period was determined by observation of vulval swelling in the female and copulations coinciding with the peak of the swelling and dilation, during two successive nights. The actual parturition was observed in its entirety and is described below. Parturition occurred in an open wooden box 46 x 46 x 25 cm that was used for sleeping by the family group of male, female, and a four-year-old female young. The male was present at previous births without causing complications of any kind and was indifferent-to-tolerant of the young. The nest box was in a cage 2 x 2 x 2 m, fastened to climbing branches, 1.20 m above the ground. There was a second sleeping box in this cage that was infrequently used by only the male.

The following are my detailed observations of the birth.

- 1815 hrs: female is restless, drives four-year-old young out of nest box, but disregards male which is sleeping in same box.
- 1900 hrs: first light labor (repeated brief contractions) is noticed.
- 1903 hrs: female licks some fluid from the vulva, male leaves box.
- 1907 hrs: female licks vulva; male returns to nest box.
- 1908 hrs: female chirps (submissively) at male, briefly licks his paw, then threatens him by screaming. The male flees.
- 1909 hrs: female in obvious pain, opens her mouth rather wide and utters several plaintive squeaks, while she clenches the edge of the box.
- 1910 hrs: female licks vulva intensively.
- 1911 hrs: she rises, circles several times on the spot.
- 1912 hrs: four-year-old young approaches in spite of threat by female (open mouth, low intensity scream), licks ear of female; female whistles plaintively, then screams at young. Young leaves and settles down in other box.
- 1917 hrs: contractions occur again; female licks her vulva and lies down curled laterally.
- 1920 hrs: female stands up, looks over edge of box, chases the approaching male, and lies down again.
- 1923 hrs: renewed contractions; female whistles and twitters; licks vulva.
- 1926 hrs: female marking edge of box by pressing her mandibular gland against it; utters plaintive sounds and licks vulva. She hisses at four-year-old young, then chirps at it. Young licks ear and belly of female which rises and marks edge of box again.
- 1931 hrs: female stands up, chirps at young (appeasingly) and licks it briefly; she scent-marks again. Female lies down, whistles, and contracts once.
- 1939 hrs: continued, repeated contractions, licking of the vulva.
- 1942 hrs: female leaves nest box and defecates from branch; she chirps toward nearby young and returns into box. Female gives plaintive call, licks vulva, and scent-marks several times.
- 1949 hrs: screams and chases male away which is trying to enter box.
- 1952 hrs: female holds on with forepaws to edge of box, contracts twice, and suddenly begins to tear furiously on the box, biting off splinters of wood, interrupted by energetic clawing of the floor of the box. The female appears extremely excited.
- 1958 hrs: stands upright, whistling; when four-year-old young approaches female bites at her, but misses. Starts chewing wood again.
- 2004 hrs: female gives plaintive whistle, contracts several times. Again returns to tearing splinters off the box.
- 2013 hrs: renewed labor pains, heavy breathing; female lies on her side, twitters, and contracts while she is supporting her-

- self with one front paw on the side of the box.
- 2017 hrs: licking of vulva, contracting every one to two minutes. This continues until 2038 hrs, interrupted by brief periods of rest.
- 2038 hrs: repeated strong contractions, a little blood seeps from the vulva. The four-year-old young must be removed because of constant bothering of the female. The eyes of the female appear deeply sunken, the mouth is slightly open as she contracts hard.
- 2048 hrs: the top of the head of the fetus becomes visible in the distended vulva.
- 2051 hrs: the head is halfway out and the female now pulls the head out completely with her teeth; she licks amniotic fluid which comes forth in moderate quantity; the birth membranes tear at the head, are removed by licking and are ingested. The female intrudes her tongue into the mouth of the fetus.
- 2058 hrs: the fetus extends from the vulva to its pelvic region, whereupon the female grasps it with the teeth and pulls it out with one jerk. She now licks the blood from the vulva and surrounding area of the fur. The umbilical cord has torn about 40 mm from the umbilicus of the neonate when it left the birth canal. The female eats about 50 mm of the cord that are protruding from the vagina. The neonate is still and motionless.
- 2106 hrs: the neonate is licked dry intensively by the female; it moves one leg.
- 2111 hrs: first vocalization (squeak) of the neonate. Licking of the neonate by the female continues.
- 2131 hrs: the afterbirth is partly expelled and pulled out by the female which then devours it.
- 2136 hrs: female lies curled laterally around the neonate that rests nestled against the fur of her belly and makes first searching movements with its head for the teat.

When on the next day, February 26, at 1300 hrs, the four-year-old young was returned to the cage of the old female, male, and newborn young, she showed intense interest in the infant young; she first licked it and later grabbed it with her teeth. The infant had to be taken by force from the older sister which was then removed again. Unfortunately, the infant had received an injury from his sister that led to his death during the following night.

On July 21, 1972, after a gestation of 118 days, another male young was born. This young survived. The old female evicted both the male and the four-year-old young from the nest box, and allowed them to use the nest box again on the eighth day post partum and thereafter. At age three weeks, simple play interactions between the infant and the four-year-old young, initiated by the latter, were observed.

Measurements of the neonate in millimeters are as follows: total length: 353; tail length: 147; ear (from notch): 12.3; hind foot: 44; head width (measured anterior of the base of the ear): 31; head height: 31; head length: 52; shank: 45; thigh: 33; distance between umbilicus and opening of the sheath of penis: 18. The weight of the newborn young is 180.73 g; his eyes are closed, and the ear canals are open. Physical description of young in Poglajen-Neuwall, 1962 [Beiträge zu einem Ethogramm des Wickelbären (*Potos flavus* Schreber); Z. Säugetierkunde, vol. 27(1): 1-44].

No post-partum estrus sensu stricto is known in this species. However in case of a still birth or removal of the neonate, females sometimes did come again into estrus 15, 17, and, after this birth, 22 days later. Other births took place 118 and 123 days after removal of the neonate and a still birth respectively. In both cases estrus and copulations were not observed (Marlett, in litt. 1969; Scheidhauer, in litt. 1971). Normally, a female will not come into estrus again until the young is weaned (four months after birth). Frequently females will have their first estrus considerably later, namely seven, eight, or 10 months post partum.

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